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Ref: 8MO

April 5, 2019

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Mr. Jon Sesso
Superfund Coordinator
Butte-Silver Bow County
155 W. Granite St., Room 108
Butte, Montana 59701

Re: Comment letter for the Butte Priority Soils Operable Unit (BPSOU) Draft Final Reclaimed Areas Maintenance and Monitoring (M&M) Plan and Butte Reclamation Evaluation System (BRES) Field Manual (both dated 11/5/18)

Dear Josh and Jon:

The U. S. Environmental Protection Agency (EPA), in consultation with the Montana Department of Environmental Quality (DEQ), is providing comments on the *Butte Priority Soils Operable Unit (BPSOU) Draft Final Reclaimed Areas Maintenance and Monitoring (M&M) Plan* and *Butte Reclamation Evaluation System (BRES) Field Manual* (both dated 11/5/18). Please address the comments below and submit a revised final version of these documents for EPA and DEQ review.

General Comment:

Any time field sampling is to be conducted at a site, including soil sampling and field parameters (e.g., soil pH), a site-specific sampling and analysis plan (SAP) must be prepared and approved by EPA/DEQ in advance of the sampling. The plans may be brief and cover a single site or multiple sites, but must reference an approved quality assurance project plan (QAPP), such as Reclaimed Areas QAPP or Unreclaimed areas QAPP, and include the following information, at a minimum:

- Title and Approval Page
- Introduction
- Goals, Objectives, and Schedule for Field Work
- Personnel Responsibilities and Contact Information
- Sampling Locations, including number of samples to be collected and sample depths
- Field Activity Methods and Procedures, specifying the SOPs or SMPs to be employed
- Sample Labeling and Shipping
- Sample Analysis, specifying XRF vs. lab analysis and lab name
- Figure showing the site and/or area represented by a sample, sample ID, and aliquot locations for composite samples

The SAP may be submitted separately or incorporated into an associated document, such the BRES Site Specific Corrective Action Plans. If desired, a SAP form providing the above information may be acceptable.

Specific Comments – M&M Plan:

1) Section 1.3, Roles and Responsibilities. This section should identify the names and the roles and responsibilities of the personnel included in the program organization and communication structure shown in Figure 2.

2) Section 7.2.1. Site Corrective Actions. EPA is on-board with BSB's use of field-capable tablet devices to delineate site features, boundaries, polygons, and the like, and sees this as a significant step forward for the BRES Program. However, from EPA's perspective, a method is needed to easily track and document progress or regression, corrective actions, boundary and polygon changes, and maintenance implemented at each site. Please propose a method by which EPA can follow a site's evaluation, corrective action, and maintenance history and readily understand current site conditions (at least since the site's most recent evaluation).

3) Section 7.2.4, Vegetative Caps. In the second sentence, the terminology used is inconsistent with the BHRS. The term "topsoil" is not included in the Butte Hill Cover Soil specifications. The BHRS requires 18 inches of cover soil meeting specified minimum requirements, with loamy sand acceptable from 6 to 18 inches only in certain circumstances with EPA approval. In the fourth sentence, the cover soil approval form was not located in Appendix B.2. Please include this form in the next version of this document.

4) Section 7.2.7, Granular Fertilizer Amendment. The fertilizer application rates are not consistently stated in the M&M Plan. Section 7.2.7 states the application of 25 lbs/acre of nitrogen and 0 (zero) lbs/acre of phosphorus and potassium. However, the BHRS and SMP-6 specify 60 lbs/acre of nitrogen, 80 lbs/acre of phosphorus, and 150 lbs/acre of potassium, and do not discuss an alternate NPK = 25-0-0. Please clarify and discuss the differing application rates with respect to improving existing vegetation versus new reclamation.

5) Section 7.3, Field Sampling. Please modify the last sentence of this paragraph to read: "Collection and analysis of composite soil samples must follow the corresponding SMPs (Appendix B.1) and Section 7.3.2, *as described in the site-specific SAP*."

6) Section 7.3.2, Composite Soil Sample Depths. Please add the following sentence to the end of the last paragraph: "…100 square feet. *Prior to sampling activities, a site-specific SAP will be presented for review and approval. The sampling requirements for a site or location will be specified in the site-specific SAP.*"

7) Section 10.2, Corrective Action Plan. In the last sentence of this section replace "compete" with "complete".

8) Section 11, Revisions and Updates. Please modify the first sentence to read: "*This M&M Plan will be reviewed annually, and revisions* and updates to address the following will be made to this document…"

9) SMP-1, Soil pH Field Testing. In the SCOPE, please add the default instrument that should be used. For example, "Work described in this procedure includes soil sampling using a hand-held soil pH meter, *a Hanna Instruments Model# 99121 or equivalent.*" In 1. Sample Size, add the following: "A minimum of one complete pH sample is recommended per ¼ acre *with at least one duplicate pH sample per site. At larger sites, take duplicate pH samples at a rate of 1 for every 20 samples analyzed.*"

10) SMP-10, Boundary Revision/Creation. There are two SMP-10s: Boundary Revision/Creation and Polygon Boundary Revision. Please revise. Modify Task 4 as follows: "…generated boundaries and match discrepancies. *Submit boundary revisions to the QAM for review and approval.*" Modify Task 5 as follows: "a. Finalize boundary delineations *and submit to EPA/DEQ for approval.*" "*b. After EPA/DEQ approval of the boundary revision,* upload BRES Quadrant Boundary to BSB database."

11) SMP-11, Engineering Assessment. Please change the name of SMP-11 to "Vegetation or Reclamation Improvement and Engineering Assessment". Insert the following Introduction before Task 1:

"a. Vegetation or Reclamation Improvement – For polygons or sites in the lowest vegetation cover category (less than 21 percent) or meet the barren area criterion, a Vegetation Improvement (VI) or Reclamation Improvement (RI) plan is implemented for those polygons or sites. If a site undergoes VI and then falls into the less than 21 percent live cover category again during any future BRES evaluations, the polygon is then required to undergo an RI, in order to meet the BHRS. The VI or RI must be conducted by qualified personnel within their range of expertise. In general, small-scale VI items may be directly addressed by BSB whereas moderate- to large-scale VI or RI may require the use of a reclamation specialist to design and implement a corrective action.
b. Engineering Assessment – An Engineering Assessment (EA) at a site is performed to determine the appropriate type of corrective action to address erosion, site edge, exposed waste, bulk soil failure or mass instability, and gully trigger items identified during a BRES site evaluation. The EA must be conducted by qualified personnel within their range of expertise. In general, small-scale EA trigger items may be directly addressed by BSB whereas moderate- to large-scale EAs may require the use of a professional engineer to design and implement a corrective action."

Modify Task 1 (Review Field Report) as follows: "a. The BSB Operations Manager will review the annual BRES evaluation to determine initial site characteristics and deficiencies, *and then assess the need for a VI, RI, or EA. Additionally, the need for inclusion of a reclamation specialist or professional engineer to assist with the design and implementation of the corrective action will be determined by the BSB Operations Manager.*"

Modify Task 3 (Soil Sampling) as follows: "b. XRF *analysis per SMP-13* to determine *if the action level for any of the COCs is exceeded.*" Modify the last sentence of Task 3 to read: "…no

more that 1 sample per 100 square feet (ft^2). *Note: Follow the sampling requirements for a site or location as specified in the site-specific SAP.*"

12) SMP-12, Weed Control. In a new task, please clarify and explain how and where areas needing weed control are delineated for the personnel conducting weed spraying. Are any other herbicides besides 2,4-D used by the PRP group (e.g., Milestone®, Tordon 22K®, Roundup®) to control spotted knapweed? Please clarify.

13) SMP-13, XL3 X-Ray Fluorescence (XRF) Analyzer. In the last paragraph of the Task for QA/QC Requirements, the procedure described for a "duplicate sample" actually describes the procedure for a laboratory duplicate sample. Please clarify this and add a procedure for the analysis of field duplicate samples.

Specific Comments – BRES Field Manual:

1) Section 1.0, Introduction. After the second sentence of the second paragraph, insert the following text: "The BRES was specifically designed for sites where the response action left mine waste in-place. At these sites, vegetated and engineered cap integrity is critical to ensuring waste does not become exposed." Add the following to the end of the second paragraph: "This BRES field manual summarizes the BRES methodology and is provided to the field crew as a training guide and to assist them with the field evaluation process."

2) Section 2.2, Evaluation Objectives. In the first sentence of the first paragraph, correct spelling of "performed". Modify the last sentence of the fifth paragraph to read: "The overall size of the response action site and the potential size of polygons must also be evaluated (see *the subsections below* for a discussion on the metrics used to determine when polygon delineation is appropriate)." Modify the second sentence of the sixth paragraph to read: "Triggers are specific parameters and their associated metrics (see *the subsections below*)."

3) Section 3.1, Management and Administration. This section should identify the names and the roles and responsibilities of the personnel included in the BRES management and administration structure shown in Figure 3-1.

4) Section 3.3.1, Vegetation. A standard operating procedure describing the modified point intercept method should be prepared and included with the BRES Manual. The procedure should explain, among other items, the process for moving the laser pointer with a grid of 10 points on a frame, the random method procedure for relocating the frame, and guidelines for selecting the number of frames necessary for a site.

5) Section 3.6, Opportunistic Maintenance Observations. The second sentence states: "To improve efficiencies, EPA and the Potentially Responsible Party (PRP) Group combined these [opportunistic maintenance observations] evaluations into the BRES evaluation protocol." However, the location in the BRES Manual where opportunistic maintenance observations are included in the BRES evaluation protocol could not be found. Like Section 7.7 in the M&M Plan, this section should describe the scope opportunistic maintenance observations so that the field teams are aware that these items are part of their BRES evaluation.

6) Section 4.1.1, Site Boundary Delineation Process. Add the following sentence to the end of the last paragraph: "All boundary adjustments must be submitted by the PRP Group to EPA/DEQ for approval."

7) Section 4.1.3, Alteration of Area Boundaries. Add the following sentence to the end of the last paragraph: "All boundary adjustments must be submitted by the PRP Group to EPA/DEQ for approval."

8) Section 4.1.4, Routine Maintenance Observation Evaluations and Polygons. This section seems to be referring to Section 3.6, not Section 3.5. Please revise accordingly.

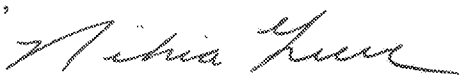
9) Section 5.4.1, Vegetation. In the second to last sentence, it is stated that this "...QC process must be completed at a frequency of no less than once per every 3 days or 75 acres evaluated using the modified point intercept method. Please explain where and how this QC step will be documented.

10) Section 6.3.1, Site Edges. Add the following sentence at the end of the last paragraph: "The captured site edge will then be tracked for future trend analysis to determine if the site edge condition is improving or declining during subsequent BRES evaluation cycles."

11) Section 7.2.1. Site Corrective Actions. EPA is on-board with BSB's use of field-capable tablet devices to delineate site features, boundaries, polygons, and the like, and sees this as a significant step forward for the BRES Program. However, from EPA's perspective, a method is needed to easily track and document progress or regression, corrective actions, boundary and polygon changes, and maintenance implemented at each site. Please propose a method by which EPA can follow a site's evaluation, corrective action, and maintenance history and readily understand current site conditions (at least since the site's most recent evaluation).

If you have any questions or concerns, please call me at (406) 457-5019.

Sincerely,



Nikia Greene
Remedial Project Manager

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